

## CLAIMS

I claim:

- 1 1. A logical port configuration system, the system comprising:  
2 a server computing element; and  
3 a client computing element communicatively coupled to the server computing  
4 element, the client computing element configured to initiate a test, whereupon the  
5 server computing element communicatively interacts with the client computing  
6 element to discover a port status of a first port of the client computing element, the  
7 first port of the client computing element being associated with an application  
8 program operative on the client computing element.
- 1 2. The system of claim 1, further comprising the server computing element  
2 configured to receive a test initiation command that is transmitted by the client  
3 computing element using a first Internet Protocol socket.
- 1 3. The system of claim 2, further comprising the client computing element  
2 communicatively interacting with the server computing element using at least one of a  
3 query message, an acknowledgement message, and a time-out message to discover the  
4 port status of the first port of the client computing element.
- 1 4. The system of claim 3, wherein the test further comprises discovering a port  
2 status of a second port of the client computing element, the second port of the client  
3 computing element being associated with the application program operative on the  
4 client computing element.
- 1 5. The system of claim 4, wherein the first port is a uni-directional port of the  
2 client computing element and the second port is a bi-directional port of the client  
3 computing element.
- 1 6. The system of claim 5, wherein the client computing element generates a  
2 status report comprising the status of the first and second ports of the client computing  
3 element.

1 7. The system of claim 6, wherein the status report further comprises instructions  
2 to a user to configure the first port of the client computing element to enable the client  
3 computing element to communicatively couple to a remote client computing element  
4 when using the application program.

1 8. The system of claim 7, wherein the client computing element communicates  
2 with the server computing element through a router.

1 9. The system of claim 8, wherein the status report further comprises instructions  
2 to a user to configure the router.

1 10. The system of claim 9, wherein the client computing element communicates  
2 with the router to obtain operating information of the router.

1 11. The system of claim 7, wherein the application program is an audio-video chat  
2 program.

1 12. The system of claim 11, wherein the audio-video chat program is a video chat  
2 program.

1 13. The system of claim 1, wherein the client computing element further contains  
2 a database comprising a port information of a plurality of ports, for operating the  
3 application program.

1 14. The system of claim 13, wherein the port information comprises a plurality of  
2 port identifiers and a plurality of network transport protocols operative on the  
3 plurality of ports.

1 15. The system of claim 14, wherein the plurality of transport protocols includes a  
2 transport control protocol (TCP) and a user datagram protocol (UDP).

1 16. The system of claim 14, wherein the application program uses a transport  
2 control protocol (TCP) on the first port of the client computing element and a user  
3 datagram protocol (UDP) on a second port of the client computing element.

1 17. A logical port configuration program stored on a computer-readable medium,  
2 the program comprising:  
3 a first computer-readable code contained in a first client computing element;  
4 and  
5 a second computer-readable code contained in a server computing element, the  
6 first and second computer readable codes operative to performing a communication  
7 test between the first client computing element and the server computing element to  
8 discover the status of at least one port of the first client computing element, wherein  
9 the at least one port is used in an application program operative to providing  
10 communication between the first client computing element and a second client  
11 computing element.

1 18. The program of claim 17, wherein the communication test is used to discover  
2 the status of a first and a second port of the first client computing element, and  
3 wherein communication through the first port is carried out using transport control  
4 protocol (TCP) and communication through the second port is carried out using user  
5 datagram protocol (UDP).

1 19. A method for configuring a logical port, the method comprising:  
2 transmitting on a first logical port, a message requesting a test of a second  
3 logical port;  
4 receiving an acknowledgement message on the first logical port; and  
5 compiling a configuration result based on at least one of a receipt of a test  
6 message through the second logical port, and a timeout period during which the test  
7 message is not received through the second logical port.

1 20. The method of claim 19, wherein the second logical port is operative in  
2 running a first software application program.

1 21. The method of claim 19, wherein the second logical port is one of a plurality  
2 of ports that are required to run a first software application program.

1 22. The method of claim 21, wherein the first software application program is at  
2 least one of an instant messaging, a video chat, and an audio-video communication  
3 program.

1 23. A software wizard program stored on a computer-readable medium, the  
2 program comprising:  
3 logic configured to provide instructions to a user for initiating a test program  
4 that tests a logical port for use in a first software application program;  
5 logic configured to provide a test result comprising a port status of the logical  
6 port; and  
7 logic configured to provide instructions to the user for configuring the logical  
8 port when the port status is a failed status.